REMARKS

Claims 1-15 are pending. Claims 1-12 have been examined and rejected. The Examiner has not addressed claimed 13-15.

New claims 16-20 have been added. Support for new claims 16-20 can be found in paragraph [0054] and in more detail in paragraph [0058] in conjunction with equation (3) of the original specification.

Turning to the Office Action, claims 1-3, 5, 6, and 9-11 have been rejected under 35 USC 103(a) as being unpatentable over Bonhomme (U.S. Patent No. 6,954,618) in view of Fudaba et al. (U.S. Patent No. 6,717,464; hereinafter "Fudaba"; newly cited). Claims 4 and 12 have been rejected under 35 USC 103(a) as being unpatentable over Bonhomme in view of Fudaba and Tsatsanis (U.S. Patent No. 6,445,692). Claim 7 has been rejected under 35 USC 103(a) as being unpatentable over Bonhomme in view of Fudaba and Jayaraman (U.S. Patent No. 6,901,243; hereinafter "Jayaraman"). Claim 7 has been rejected under 35 USC 103(a) as being unpatentable over Bonhomme in view of Fudaba, Jayaraman and Tsatsanis. Applicant respectfully traverses these rejections for the reasons set forth below.

Fudaba discloses in Fig. 1 a distortion compensating apparatus 100A for an input signal 500 filtered by a digital filter 210. An equalizing processor 230 selects one of a plurality of filter coefficient sets 830 for the digital filter 210. A feedback signal 710 which is derived from the output signal 520 of the digital filter 210 is used for re-evaluating the selection of the filter coefficient sets 830 in a distortion compensating algorithm processor 130.

Independent claims 1, 5, 9, 13 and 15 each recite a recursive filter. Neither Bonhomme nor Fudaba teaches a recursive filter.

A recursive filter is defined by feeding back output signal values to the signal input of the filter to filter subsequent signal values by using these previously filtered (i.e., fed back) signal values. (See attached Wikipedia excerpt.) Fudaba discloses a feedback path 710 for inputting

outputted signals 520 of the digital filter 210 to a processor 130. The processor then re-evaluates the selection of the filter coefficient sets 830. Fudaba fails to teach feeding back outputted signals 520 to the signal input of the digital filter 210. Therefore, Fudaba fails to teach a recursive filter.

Hence, independent claims 1, 5, 9, 13 and 15, along with their dependent claims, are patentable over Bonhomme and Fudaba for at least these reasons.

Applicant asserted in the previous Response that Tsatsanis does not suggest filter coefficients of sets being calculated by averaging over various values of the signal-to-interference and noise ratio, as required by dependent claims 4, 8, 12, and 14. Tsatsanis teaches calculating an averaged signal-to-interference and noise ratio SINRav[i], rather than calculating filter coefficients by averaging over various values of the signal-to-interference and noise ratio. This argument was not addressed by the Examiner. Applicant respectfully requests the Examiner to response to this assertion or withdraw the prior art rejection with respect to these claims.

Further, claims 4 and 12 relate to the computation of filter coefficients, not (averaged) SINR-values as in Tsatsanis. What is calculated are not the filter coefficients at an averaged SINR value, but the filter coefficients averaged over various values of the SINR. Thus, claims 4 and 12 relate to the computation of another quantity as concerned in Tsatsanis and, to this end, even do not require or use the quantity calculated in Tsatsanis. The "similarity" is only linguistic, not conceptual or mathematical.

Claim 13-15 have not been addressed. Applicant therefore assumes these claims are allowable.

Regarding new dependent claims 16-20, Bonhomme, Fudaba, Tsatsanis, and Jayaraman do not suggest selecting and calculating sets of filter coefficients. Therefore, the new dependent claims are patentable over the applied prior art for this additional reason.

In view of the above, Applicant believes the pending application is in condition for allowance.

In the event a fee is required or if any additional fee during the prosecution of this application is not paid, the Patent Office is authorized to charge the underpayment to Deposit Account No. 50-2215.

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Respectfully submitted,

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Recursive filter

From Wikipedia, the free encyclopedia

In signal processing, a **recursive filter** is a type of filter which re-uses one or more of its outputs as an input. This feedback typically results in an unending impulse response (commonly referred to as *infinite impulse response* (IIR)), characterised by either exponentially growing, decaying, or sinusoidal signal output components.

However, a recursive filter does not always have an infinite impulse response. Some clever implementations of moving average filter are recursive filters but with a Finite impulse response.

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